Final Project Presentation

TNE80013 Software Managed Networks

Presented by Leo Holden

Overview

What is the objective of this presentation?

Presentation sections

- Problem Analysis – Traditional & SDN based networking and the differences
- System Demonstration – Proof-of-concept demonstration in GSN3
- Risk Analysis – Potential impact of discontinuing the project

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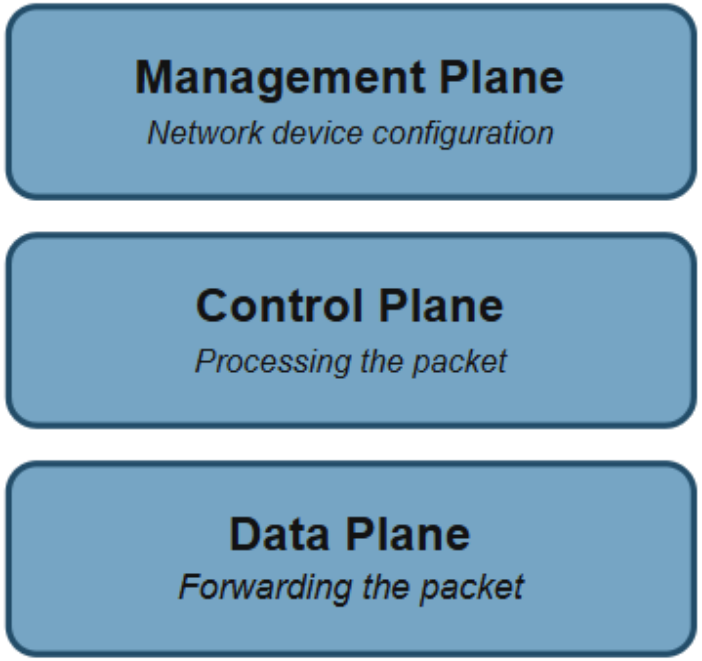
Problem Analysis

Comparing Traditional and Software Defined Networking

The three planes of networking devices:

- Control plane
- Data plane
- Management plane



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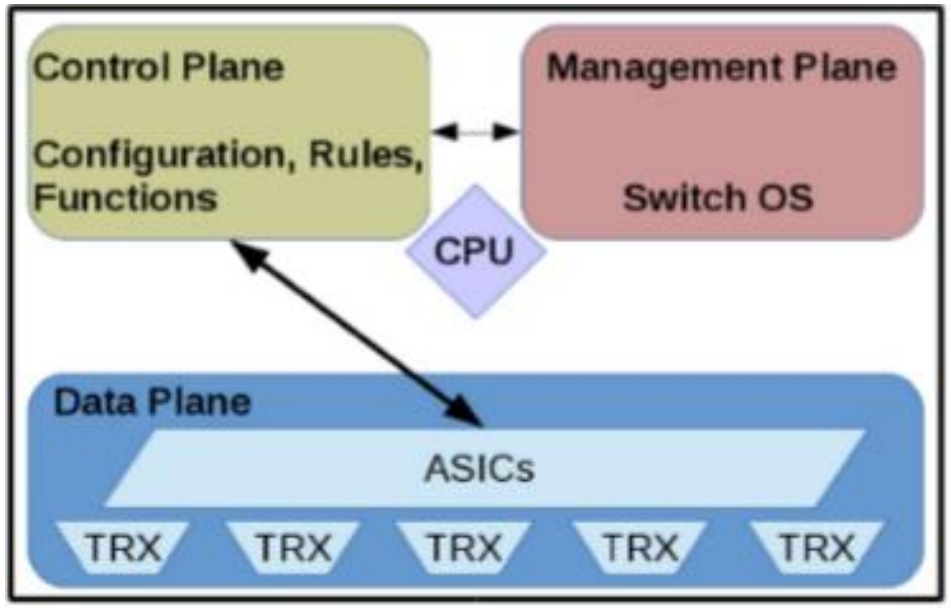
Problem Analysis

Traditional Networking

Every device has their own set of networking planes

- Tight coupling of hardware and software
- Fixed functionality
- Distributed control logic
- Management configurations per networking device
- Dependencies & vendor lock-in
- Scalability & cost issues



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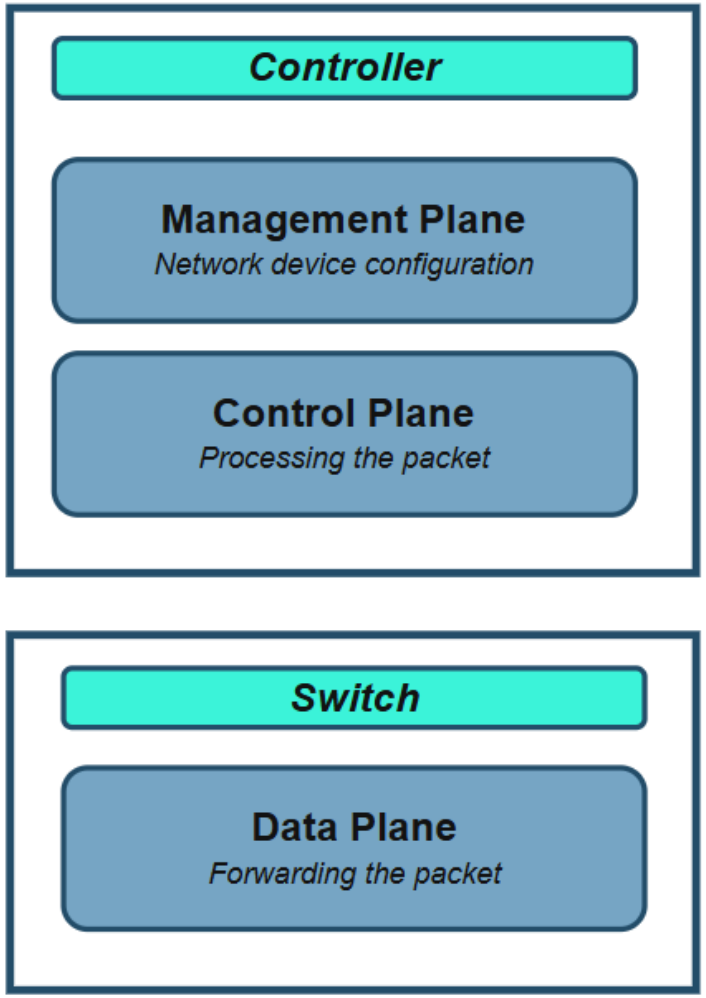
Problem Analysis

Software Defined Networking (SDN)

Separating the networking planes

- Separation of Control & Data plane (Decoupling)
- Centralised control logic & network overview
- Dynamic and flexible networking
- Programmable automations & configurations
- Open standard networking
- Commodity hardware



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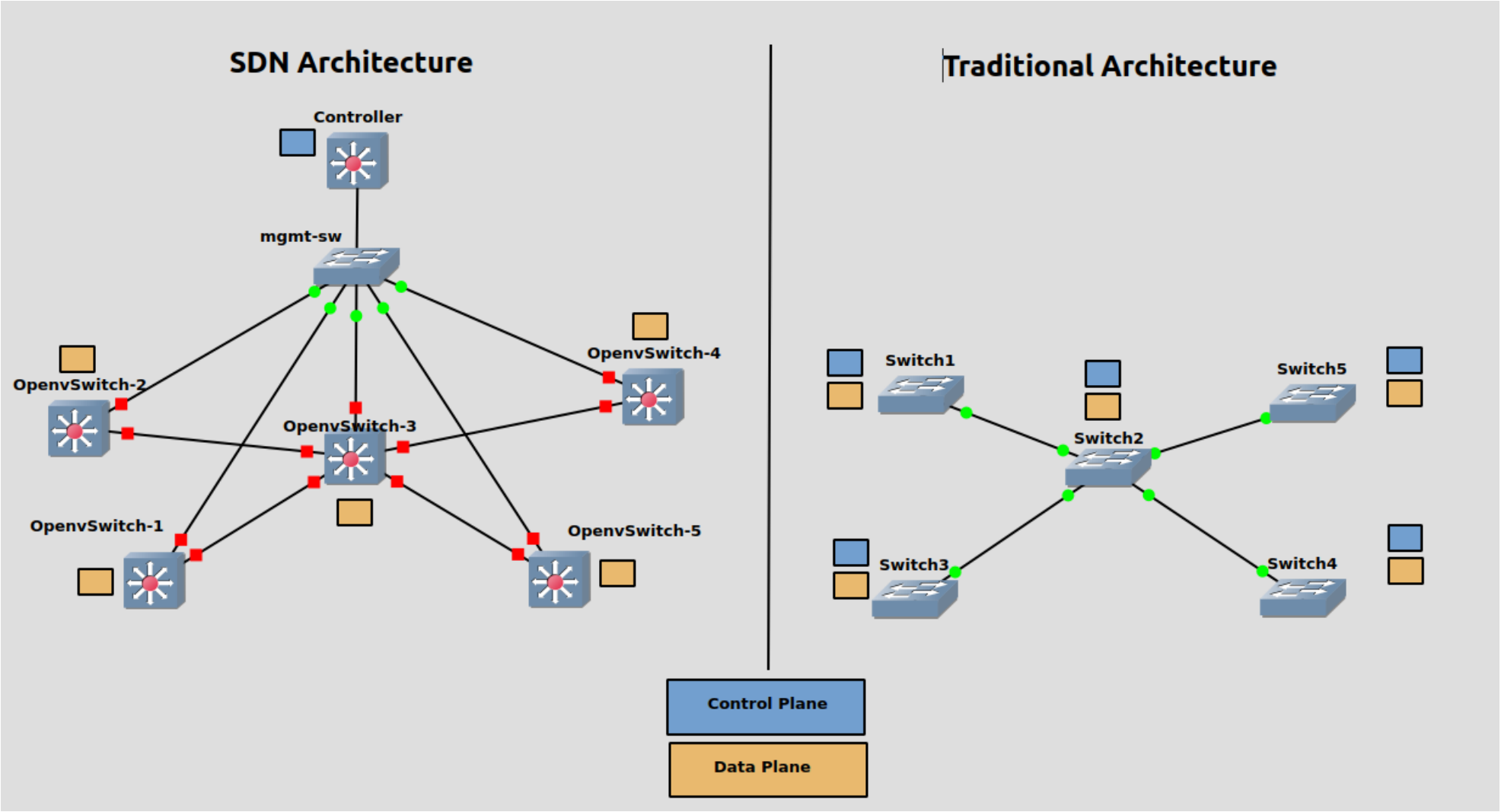
Problem Analysis

Topological Perspective



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System Demonstration

Network Function Virtualization (NFV)

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Risk Analysis

What is the impact of discontinuing the project?

Strategic Risk	Operational Risk	Impact	Severity
Competitors deploy and scale services quicker with SDN	Automation vs. manual configuration	Loss in clients & revenue; clients see SDN as the 'next-gen' solution	High
Competitor's adopt AI integrated and innovative solutions	Traditional infrastructure is limiting in future technology integration	Missed partnership & opportunities with clients	High
Vendor lock-in	Multi-vendor deployment issues	Additional costs (Maintenance, more hardware)	Medium
Inefficient scalability as network grows	Inability to dynamically deploy or allocate resources in high traffic	Downtime; potential financial loses for each hour, vertical or horizontal scaling?	Medium

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Thank you for your time